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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/833,833

04/12/2001

James K. Walker

NAN-105XC1

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03/02/2004

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EXAMINER

VARGOT, MATHIEU D

ART UNIT

PAPER NUMBER

1732

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/833,833

Applicant(s)

WALKER ET AL.

Examiner

Mathieu D. Vargot

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 31-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

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|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5.7.8</u> | 6) <input type="checkbox"/> Other: ____  |

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-30, drawn to a method of manufacturing a plastic optical transmission medium, classified in class 264, subclass 1.29.
- II. Claims 31-38, drawn to a plastic optical transmission medium and method of making same, classified in class 264, subclass 1.7.

The inventions are distinct, each from the other because:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, since the claims of Group II do not require the use of the outer tubing which protects the inner tubes during the heat-driven diffusion.

During a telephone conversation with Mr. Parker on February 18, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-38 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

2. Claims 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 29, it should be explicitly recited what is being cross-linked. As it stands, the claim is indefinite in failing to make clear why the crosslinking is being induced and what is being crosslinked.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 9, 10 and 24-30 are rejected under 35 U.S.C. 103 as being obvious over Blyler, Jr et al (see col. 2, lines 36-62 and col. 3, line 55 through col. 4, line 11).

The applied reference (which is the US equivalent to applicant cited European Patent 130,838) discloses the basic claimed method of manufacturing a plastic optical transmission medium by coextruding a core and cladding polymeric material into a tube, one or the other comprising a diffusible additive, surrounding the coextruded polymeric tube with an outer tubing which has a glass transition temperature which is higher than the temperature at which a diffusion process is carried out (see col. 3, line 59) and heating the coextruded polymeric tube surrounded by the outer tubing to a diffusion

temperature to make a graded refractive index medium. Essentially, Blyler, Jr et al fails to explicitly disclose that the outer tubing has a glass transition temperature greater than any of the coextruded concentric cylinders and that the diffusion is carried out by heating to a temperature which is below that of the glass transition temperature of the outer tubing but above the glass transition temperature of all of the concentric cylinders. It is submitted that the disclosure in Blyler, Jr et al that the outer tubing has a high glass transition temperature above that at which the diffusion takes place renders these aspects as obvious. Clearly, the applied reference desires to have the outer tubing keep its structural integrity during the diffusion, and hence the outer tubing would advantageously have a glass transition temperature greater than that of the inner concentric cylinders while the heating for diffusion would occur at a temperature below the  $T_g$  of the outer tubing to facilitate maintenance of the structural integrity. Further, it would have been obvious to one of ordinary skill in the art to perform the diffusion at temperatures above the glass transition temperatures of the inner concentric cylinders to expedite the diffusion. Softening or even partial melting of the cylinders would not pose a problem since the outer tubing maintains its structure during the diffusion. The exact glass transition temperature and numerical aperture of the overall optical transmission medium would have been an obvious expedient in the process of the applied reference dependent on the final operating environment desired for the medium.

4. Claims 2, 4-8 and 11-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blyler, Jr et al in view of Koike et al -621 (see col. 2, lines 45-48; col. 4, lines 36-67; col. 2, lines 49+; Table 2 for diffusible additives).

Blyler, Jr et al discloses the basic claimed process as set forth in paragraph 3, supra, the primary reference essentially lacking an explicit disclosure of using a non-polymerizing additive, the particular manner of diffusing the additive, refractive index relationships and polymeric materials for the concentric cylinders and additives used. Koike et al -621 discloses making a graded index medium similar to that being made in the primary reference and teaches the use of a non-polymerizing additive, certain of the instant additives and polymeric materials for the concentric cylinders and steps and refractive indices used for the polymers to arrive at the desired refractive index gradient. It is submitted that all of these aspects are quite well known in the art and would have been obvious expedients in the process of Blyler, Jr et al dependent on the exact optical (fiber) medium desired and use therefor.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni, can be reached on 571 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot  
February 20, 2004

  
Mathieu D. Vargot  
Primary Examiner  
Art Unit 1732

2/20/04